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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/716,466	11/20/2003	Georges Caillon	Q78567	6848
23373	7590	05/15/2007		
SUGHRUE MION, PLLC 2100 PENNSYLVANIA AVENUE, N.W. SUITE 800 WASHINGTON, DC 20037			EXAMINER LEWIS, BEN	
			ART UNIT 1745	PAPER NUMBER
			MAIL DATE 05/15/2007	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

10/716,466

Applicant(s)

CAILLON ET AL.

Examiner

Ben Lewis

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 October 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
  - 2) ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |  |
|---|--|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                      | 5) <input type="checkbox"/> Notice of Informal Patent Application                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date ____ | 6) <input type="checkbox"/> Other: ____  |

**Detailed Action**

1. The Applicant's amendment filed on February 5<sup>th</sup>, 2007 was received. Claims 1 and 12 were amended. Claim 18 was added.
2. The text of those sections of Title 35, U.S.C. code not included in this action can be found in the prior Office Action (issued on October 5<sup>th</sup>, 2006).

***Claim Rejections - 35 USC § 112***

3. The claim rejections under 35 U.S.C. 112, second paragraph, on claim 11 is withdrawn, because the claim has been either amended.

***Claim Rejections - 35 USC § 103***

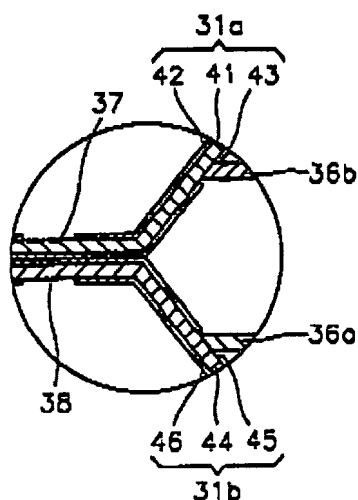
4. Claims 1-5,13-15 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chang et al. (U.S. Patent No. 6,387,566 B1) and further in view of Guindy et al. (U.S. Patent No. 6,541,155 B2).

With respect to claims 1, 15 and 18, Chang et al. disclose a battery with laminated insulator/metal/insulator case wherein FIG. 3A shows a battery **30** according to the present invention. As shown in FIG. 3B, an electrode assembly **35** having positive electrode sheets **32**, negative electrode sheets **33** layered alternately with separators **34** interposed between each pair of positive and negative sheets **32**, **33**, is housed in a case **31**, which is comprised of an upper case body **31 a** and a lower case

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body 31b having the same shape. Each case body has a recess in the center to receive the electrode assembly 35. The depth of the recess is about half the thickness of the electrode assembly 35 so that, when the upper and lower case bodies 31a and 31b are put together, the recesses will create enough space to enclose the electrode assembly 35. The periphery of one case body of the case 31 serves as an adhering surface with the corresponding periphery of the other case body. Referring to FIG. 4, each of the upper and lower case bodies 31a and 31b is comprised of a thin conductive foil 41, such as an aluminum foil, both surfaces of which are coated with electrically insulating layers 42, 43, 45 and 46 made of polymer. Hereinafter, a description will be given as to an embodiment employing aluminum as conductive layer. However, the present invention is not limited to the use of aluminum but other conductive foil can be used (Col 2 lines 10-67).

FIG. 4B



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Chang et al. is silent with regards to the negative and positive electrode each comprising a current collector. However, Guindy et al. discloses a bicell battery apparatus wherein, the preferred intermediate cathode electrode **16** comprises a cathode active material **26** (i.e., preferably a lithium metal oxide) which sandwiches a cathode current collector **28**. An example and preferred material for the cathode current collector is an aluminum mesh material (Col 2 lines 60-67). The preferred anode of each counter electrode **12** and **14** comprises anode active material **18** (i.e., preferably a polymeric binder in a carbonaceous particulate material) which houses respective anode current collectors **20**. An example and preferred material for the anode current collector is a copper mesh material (Col 3 lines 9-20). Therefore it would have been obvious to one of ordinary skill in the art to incorporate the current collectors of Guindy et al. into the battery of Chang et al. because current collectors are an efficient means for uniformly collecting the current of the electrodes which is directed to the battery terminals.

With respect to claims 2-5, Guindy et al teach that first substantially electrolyte impermeable insulative layer **52** is received between first counter electrode separator **22** "first sublayer" and intermediate electrode separator **30**, and received between first counter electrode **12** and current collector extension **48**. First insulative layer "second sublayer" **52** includes an end edge **54** which is received outwardly beyond end edge **34** of first counter electrode **12** within region **45**. A second substantially electrolyte

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impermeable insulative layer **56** is received between second counter electrode separator **24** and intermediate electrode separator **32**, and received between second counter electrode **14** and current collector extension **48**. Second insulative layer **56** has an end edge **58** which is received outwardly beyond end edge **40** of second counter electrode **14** within region **45**. Preferably as shown, first insulative layer **52** contacts separators **22** and **30**, and second insulative layer **56** contacts separators **32** and **24**. Preferred exemplary materials for insulating layers **52** and **56** include ethylene acrylic acid, polyester and any other material or materials which exhibit compatibility with the other battery components and electrolytes (Col 3 lines 44-67).

With respect to claim 11, Chang et al and Guindy et al. disclose a battery with laminated insulator/metal/insulator case wherein FIG. 3A shows a battery **30** according to the present invention. Chang et al. et al is silent as to whether the packaging means are flexible. However, it is the position of the examiner that such properties are inherent, given that Chang et al and the present application utilize the same materials of construction. A reference which is silent about a claimed invention's features is inherently anticipatory if the missing feature is necessarily present in that which is described in the reference. In re Robertson, 49 USPQ2d 1949 (1999).

With respect to claim 13, Guindy et al teach that the intermediate electrode and the outer counter electrodes are typically operatively spaced from one another by at least one electrolyte bearing separator (Col 1 lines 45-50).

With respect to claim 14, Chang et al teach that present invention relates to a battery, and more particularly to a rechargeable-battery case (Col 1 lines 1-10).

5. Claims 6-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chang et al. (U.S. Patent No. 6,387,566 B1) and Guindy et al. (U.S. Patent No. 6,541,155 B2) as applied to claims 1-5 and 13-15 above and further in view of Dasgupta et al. (U.S. Patent No. 6,080,508).

With respect to claim 6, Chang et al. and Guindy et al. disclose a thin battery in paragraph 2 above. Chang et al. and Guindy et al. do not specifically teach packaging means constituted by a multilayer structure comprising at least one support layer provided with a first surface secured to another protective layer. However Dasgupta et al. discloses a packaging assembly for a lithium battery wherein, thin plate rechargeable lithium batteries are frequently enclosed and preferably air-tightly sealed, in a flexible multi-layered polymeric packaging material. As briefly discussed above, the multi-layered material for wrapping and enveloping a thin plate rechargeable lithium battery is usually composed of several polymer laminate layers but may additionally include

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organic and inorganic substances adhering to the surface of one or more of the polymer layers. Any thermoplastic polymer which can be laminated to thin layers may be utilized. The polymer layer, which carries the metallic foil on its inner face is most often, a thermoplastic polymer, performing the role of mechanical protection as well. Thus the multi-layered laminate comprises at least three layers but may have more than three (Col 3 lines 59-67). Therefore it would have been obvious to one of ordinary skill in the art to incorporate the multilayer structure of Dasgupta et al. into the battery of Chang et al. and Guindy et al. because Dasgupta et al. teach that lithium batteries are very sensitive to atmospheric oxidation and moisture, and are usually enclosed in some form of an air-tight container (Col 3 lines 59-67).

With respect to claim 7, Dasgupta et al. teach that the multi-layered packaging material often additionally includes a metallic foil, most frequently aluminum foil, but alloys of aluminum, copper, and similar readily machinable metals are also acceptable (Col 3 lines 59-67).

With respect to claims 9-10, Dasgupta et al. teach that the multi-layered laminate consisted of a medium density polyethylene inner insulator layer, a high density polyethylene external layer, and an aluminum foil deposited on the inner face of the high density polyethylene external layer, thus the aluminum barrier layer was located between the medium and high density polyethylene layers (Col 7 lines 10-35).



6. Claims 16-17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Chang et al. (U.S. Patent No. 6,387,566 B1) and Guindy et al. (U.S. Patent No. 6,541,155 B2) as applied to claims 1-5 and 13-16 above and further in view of Johnson et al. (U.S. Patent No. 6,854,657B2).

With respect to claims 16-17, Chang et al. and Guindy et al. disclose a thin battery in paragraph 2 above. Chang et al. and Guindy et al. do not specifically teach wherein, the electronic components and/or circuits are powered by an electrochemical cell according to applicants claim 1. However Johnson disclose a dual battery configuration wherein the present invention may be embodied and described as a smart card including: processing and memory circuitry; a primary battery disposed in the smart card for providing power to the processing and memory circuitry; and a secondary battery disposed in the smart card for providing power to the processing and memory circuitry. Col 3 lines 25-35). Therefore it would have been obvious to one of ordinary skill in the art to power the electronic components in the smart card of Johnson with the battery of Chang et al. and Guindy et al. because Johnson teach that the present invention may be embodied and described as a smart card including: processing and memory circuitry; a primary battery disposed in the smart card for providing power to the processing and memory circuitry; and a secondary battery disposed in the smart card for providing power to the processing and memory circuitry. Col 3 lines 25-35)

***Response to Arguments***

7. Applicant's arguments filed on February 5<sup>th</sup>, 2007 have been fully considered but they are not persuasive.

*Applicant's principal arguments are*

(a) Chang et al. further fails to disclose that a single connection tab passes through said packaging means in such a manner as to project outwards, as claimed in claim 1.

(b) The said terminals of Chang et al. do not co-operate with the said insulating layer to define a single connection tab that passes through said packaging means in such a manner as to project at least partially outwards.

In response to Applicant's arguments, please consider the following comments.

(a) and (b) Chang teach that referring to FIG. 4, each of the upper and lower case bodies **31a** and **31b** is comprised of a thin conductive foil **41** "terminal", such as an aluminum foil, both surfaces of which are coated with electrically insulating layers **42** "outer packaging layer", **43**, **45** and **46** "outer packaging layer" made of polymer. Hereinafter, a description will be given as to an embodiment employing aluminum as conductive layer. However, the present invention is not limited to the use of aluminum but other conductive foil can be used (Col 2 lines 10-67).

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"The terminals **41** and **44** come together as shown in Fig. 4B to form a single connection tab which protrude through packaging means **42** and **46** exposing surfaces **37** and **38**."

### ***Conclusion***

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ben Lewis whose telephone number is 571-272-6481. The examiner can normally be reached on 8:30am - 5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached on 571-272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Ben Lewis

Patent Examiner  
Art Unit 1745



PATRICK JOSEPH RYAN  
SUPERVISORY PATENT EXAMINER